

ABSTRACT

A constant-current circuit and a system power source using this constant-current circuit are disclosed, which can generate plural highly accurate constant currents and supply them as bias currents by reducing variations caused by a change of a manufacturing process and a change of temperature. An operational amplification circuit AMP controls the operation of PMOS transistors M1 and M2 so that negative feedback is applied to a variation of one of currents  $i_1$  and  $i_2$  flowing from the PMOS transistors M1 and M2 and the variation is canceled. By making a constant current, which flows in a resistor R1 connected to a potential difference generated by a difference of current densities flowing in two pnp transistors Q1 and Q2 to which currents are correspondingly supplied from the PMOS transistors M1 and M2, to be a reference current; each of PMOS transistors MA1 through MAn whose operation is controlled by the operational amplification circuit AMP generates a current proportional to the reference current and outputs the generated current.